



## KNOWLEDGE ORGANIZATION: SOME TRENDS IN AN EMERGENT DOMAIN



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### Abstract

The organization knowledge concept is defined as the domain where scientific research interacts with its application to systems development. Disciplines that embraces, as information science; and its products, such as classification systems, are cited. Some recent trends and current activities are presented. The article concludes presenting briefly the ISKO society and its activities.

### Keywords

Knowledge organization, Trends, Systems, Classifications, *UDC*, *ISKO*.

**Título: Organización del conocimiento: algunas de las tendencias en un dominio emergente**

### Resumen

Se define el concepto organización del conocimiento como el dominio donde interacciona la investigación científica con su aplicación al desarrollo de sistemas. Se citan las disciplinas que acoge, como la ciencia de la información; y sus productos, como los sistemas de clasificación. Se presentan tendencias recientes y trabajos actuales. Se cita sociedad *ISKO* y se presentan brevemente sus actividades.

### Palabras clave

Organización del conocimiento, Tendencias, Sistemas, Clasificaciones, *CDU*, *ISKO*.

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### What is knowledge organization?

Knowledge organization (also well-known by its acronym KO) is the domain in which the order of knowledge is both the primary paradigm for scientific investigation and the primary application in the development of systems. These two threads are interwoven in the domain, and there is a fairly substantive discourse between the evolving theories of knowledge organization, on the one hand, and evolving systems for organizing knowledge (known as KOS) on the other. The applied products of the domain are classifi-

cations, taxonomies, ontologies and thesauri, for example. The theoretical products are the rules for discovering the natural order of knowledge or for imposing a useful sequence on discovered knowledge. Both the science and its applications rely heavily on concept theory (Dahlberg, 2006; Hjørland, 2009), which some argue is the most basic or primal element in the knowledge universe (Van den Heuvel; Smiraglia, 2010; Szostak, 2011). Although the domain is closely associated with information science, and many of its practitioners are members of faculties of information science, the extension of the domain of KO is actually

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somewhat broader, encompassing all disciplines in which the tools of KO are used. That is, KO is actually the domain that incorporates interdisciplinary approaches to the order of knowledge (Hjørland 2003, 2008).

The locus for much work in KO is the *International Society for Knowledge Organization (ISKO)* and its regional chapters. ISKO was founded by Dahlberg in 1986 (Dahlberg, 2006) to promote and coordinate research. The domain is fairly compact but highly active; its major venues are its journal *Knowledge organization*, the proceedings of its biennial international conferences in the series *Advances in knowledge organization* (both published by Ergon-Verlag of Würzburg, Germany), and the proceedings of the individual regional chapters.

Arguably, the primary approach to research in KO is called domain analysis, which is itself a tool-kit incorporating eleven methodological approaches articulated by Hjørland and Albrechtsen (1995). Most domain analyses are empirical, and many are bibliometric, but some other methodological approaches also are occasionally employed, including ethnography (Hartel, 2003).

Many applied products in KO are classifications, ranging from the classical bibliographical meta-classifications such as the *Universal decimal classification* to simple experimental taxonomies, sometimes referred to as naïve classifications (Beghtol, 2003). The means by which concepts are isolated, relationships and attributes recorded, and classifications are structured are articulated by what often is called “classification theory” (Beghtol, 2010). There has been a shift in the KO domain over the past quarter-century from the search for universally acceptable solutions, to domain-centric approaches. This shift has been the catalyst for an increasing emphasis on domain analysis, as well as for the emergence of domain analysis as a key concept in KO (Mai, 2008, 2011).

### Emergent trends in KO

I have used the tools of domain analysis to track the shifting intension and extension of KO since I became editor of *Knowledge organization*. These parameters tell us at any

given moment both the breadth of topics being treated in research in our domain, and the theoretical depth of the paradigms in operation. In a recent paper (Smiraglia, 2011), I have brought together several domain analytical snapshots of KO for meta-analysis. What we see is internal coherence in the domain around the poles of KO represented by concept theory, on the one hand, and KOS on the other. There has been a shift from the search for universal solutions that occupied early KO researchers, to a search for interoperability since the advent of the World Wide Web. It also is apparent that a dynamic epistemological tension exists in KO between empirical researchers working with traditional “scientific” methods, and theorists working with humanistic methods. This dichotomic epistemic stance helps provide dual dimensionality to the domain, keeping it always in a state of renewal as new topics enter the paradigmatic region or receive treatment from emerging methodological poles.

Emergent trends are often first identified by the regional chapters of ISKO. It has been the editorial policy of *Knowledge organization* in recent years to carry the top 3-5 papers from every regional chapter conference whenever possible. Topics that have emerged as critical for the future of KO are ontogeny, linked open data, people-centered properties, global agents, multimedia information retrieval, and especially faceted solutions.

### Recent work

Finally, I would like to point to the three remarkable developments in the KO domain:

1) The first is represented by the reinvigoration of the *Universal decimal classification*, and in particular the proceedings of its 2011 *International UDC seminar* [Slavic; Civalero

<http://seminar.udcc.org/2011/index.htm>

All of the dimensions noted in the preceding section of this paper were apparent at the seminar, as semantic web technologies revealed their impact on theoretical and empirical work in KO. Web vocabularies, knowledge representation, elementary knowledge structures, interoperability, linked data, ontologies, facets, and integration of new data models all made an appearance at this seminar.

2) My own *IOrg* (for *Information Organization*) research group based at the *University of Wisconsin-Milwaukee* has just sent to press an anthology of papers about epistemology and its critical role in KO. The book will be titled *Cultural frames of knowledge* (Smiraglia; Lee, 2012) and will be available at the 12<sup>th</sup> *Intl ISKO conf* in Mysore, India, in August 2012. The

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<a href="#">home</a> <a href="#">about ISKO</a> <a href="#">join ISKO</a> <a href="#">Knowledge Organization journal</a> <a href="#">ISKO events</a> <a href="#">ISKO chapters</a> <a href="#">ISKO people</a> <a href="#">ISKO publications</a> <a href="#">KO literature</a>	<p>This is the official website for ISKO – the premier international scholarly society devoted to the theory and practice of <a href="#">knowledge organization</a>.</p> <p><b>Recently published</b></p> <ul style="list-style-type: none"> <li>Knowledge organization. 39. <b>Issue 3</b> mailed to ISKO members</li> <li>Knowledge organization literature. 2012. <b>Issue 2</b></li> <li>Ontology for big systems (Ontology summit)</li> <li>Epistemic foundation of bibliographic classification in early China (JDoc)</li> <li>Is classification necessary after Google? (JDoc)</li> <li>Conceptual syntagmatic associations in user tagging (JASIST)</li> <li>ADMS: Asset Description Metadata Schema</li> <li>Ontology-Lexica Community Group (W3C)</li> <li>draft of ISO 25964-2: Interoperability with other vocabularies</li> <li>Foundations of information science</li> </ul>

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volume contains eight literature reviews plus a foreword by **Hope Olson**, covering topics as diverse as discourse analysis, domain analysis, semiotics and genre, and focusing on cultural diversity through lenses of Chinese and Indian cultures, as well as a survey of feminist epistemologies.

3) Finally, the Mysore conference itself promises to push the boundaries of KO in new and exciting ways. Most likely, the conference will embrace the multi-dimensionality of the four poles represented by the empiricist-humanist concatenation and the concept theory-KOS continuum, while simultaneously bringing forth new emergent trends. In addition, the conference's location in India for the first time in twenty years also represents the first foray beyond North America-Western Europe. The cultural influences at the conference likely will also stretch the domain's intension. KO continues, therefore, to emerge and evolve as a dynamic area for research and discovery.

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